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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/445,139	12/02/1999	CHANGSHENG XU	U-012452-9	9532

7590 09/30/2004

LADAS & PARRY
26 WEST 61ST STREET
NEW YORK, NY 10023

EXAMINER

ZAND, KAMBIZ

ART UNIT PAPER NUMBER

2132

DATE MAILED: 09/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/445,139

Applicant(s)

XU ET AL.

Examiner

Kambiz Zand

Art Unit

2132

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6,8-20,22-34,36-43,45-51,53-59,61-67 and 69-74 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 43,45-51,53-59 and 61-66 is/are allowed.
- 6) ☒ Claim(s) 1-5,9-19,23-33,37-42 and 67-74 is/are rejected.
- 7) ☒ Claim(s) 6,8,20,22,34 and 36 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 08/10/2004 has been entered.
2. The text of those sections of Title 35, U.S. Code not included in this section can be found in the prior office action.
3. The prior office actions are incorporated herein by reference. In particular, the observations with respect to claim language, and response to previously presented arguments.
4. Claims 1, 6-9, 15, 20, 22, 23, 29, 36, 37, 43, 51, 59 and 67, have been amended.
5. Claims 7, 21, 35, 44, 52, 60 and 68 have been cancelled.
6. Claims 1-6, 8-20, 22-34, 36-43, 45-51, 53-59, 61-67 and 69-74 are pending.

Response to Arguments

7. Applicant's arguments with respect to the claims filed 08/10/04 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

8. **Claims 1-5, 10-19, 23-33, 37-42, 67 and 69-74** are rejected under 35 U.S.C. 103(a) as being unpatentable over Moskowitz et al (6,522,767 B1) in view of Applicant Admittance Prior Art (AAPA) and **further in view of Arnalds (6,093,880 A).**

As per claims 1, 9, 14-15, 23, 28-29, 37, 42, 67, 70, 72 and 74 Moskowitz et al (6,522,767 B1) teach an apparatus, a computer program product and method of embedding and extracting a digital watermark in digital audio data coded using a synthesizer-architecture format, said method including the steps of: embedding and extracting at least a portion of said digital watermark in sample data (see abstract; col.5, lines 23-37; col.6, lines 23-49; also see col.4-14 for detailed description) but do not disclose watermarking of articulation parameters of said synthesizer-architecture wavetable (WT) format. However AAPA teach articulation parameters of said synthesizer-architecture format as prior art (see page 2, lines 14-23 where synthesizer-architecture wavetable (WT) format is described as becoming a new standard in musical industry). It would have been obvious to one of ordinary skilled in the art at the time the invention was made to utilize AAPA's synthesizer-architecture format in addition to Moskowitz's featured-based digital watermarking that relates not to one sample such as data sampling but on multiple samples (such as data sampling and synthesizer-format sampling; etc..) as described in col.5, lines 23-26 in order to

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watermark a digital signal or data. However Moskowitz in view of AAPA do not explicitly disclose inserting of the coded bit sequence in articulation parameters. Arnalds (6,093,880 A) disclose inserting of the coded bit sequence in articulation parameters (see col.18, lines 27-35 where it disclose a filter can be coded in any component object model and also disclose sample by sample basis; lines 36-40 disclose variables that corresponds to Applicant's parameters are user-defined and they can be modulated (coded) and it can be used as a variable such as articulation ("a")). It would have been obvious to one of ordinary skilled in the art at the time the invention was made to utilize Arnalds's coded bit in articulation variables in Mosokowitz's digital watermarking in digital audio in AAPA synthesizer-architecture in order to provide an audio language and an audio player for use in playing audio in a virtual environment and for transmitting audio data over a network.

As per claims 2, 16 , 30, 69, 71 and 73 Moskowitz et al (6,522,767 B1) teach an apparatus, a computer program product and the method according to claims 1, 15, 29, and 60 further including the step of adaptively coding said digital watermark in said sample data (see col.12, lines 45-47 where by adaptively coding said digital watermark in said sample data the positioning of the inserted watermark is selected).

As per claims 3, 17 and 31 Moskowitz et al (6,522,767 B1) teach an apparatus, a computer program product and the method according to claims 2, 16 and 30, wherein redundancy adaptive coding is used based on a finite automaton (see col.12, line 47).

As per claims 4, 18 and 32 Moskowitz et al (6,522,767 B1) teach an apparatus, a computer program product and the method according to claims 1, 15 and 29, further including the step of hiding said digital watermark in said articulation parameters by creating virtual parameters (see col.10, lines 23-28).

As per claims 5, 19 and 33 Moskowitz et al (6,522,767 B1) teach an apparatus, a computer program product and the method according to claims 4, 18 and 32, further including the step of embedding said digital watermark in said virtual parameters (see col.10, lines 23-42).

As per claims 10, 24 and 38 Moskowitz et al (6,522,767 B1) teach an apparatus, a computer program product and the method according to claims 4, 18 and 32, further including the step of encrypting said digital watermark (see col.3, lines 36-43).

As per claims 11, 25 and 39 Moskowitz et al (6,522,767 B1) teach an apparatus, a computer program product and the method according to claims 1,15 and 29, further including the step of generating said digital watermark (see col3, lines 36-43).

As per claims 12, 26 and 40 Moskowitz et al (6,522,767 B1) teach an apparatus, a computer program product and the method according to claims 1, 15 and 29, further including the step of dividing said digital audio data coded using a architecture-

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architecture format into said sample data and said articulation parameters (see col.5, lines 22-26 where different samples represent different divided parameters before the watermarking or after).

As per claims 13, 27 and 41 and Examiner takes an official notice that embedding and extracting a playback control signal is well known in the art of multimedia, video and audio cryptography.

Allowable Subject Matter

9. Claims 43, 45-51,53-59,61-66 **is allowed**.

10. The following is an examiner's statement of reasons for allowance: The prior art singly or in combination do not disclose the limitation set forth in the independent claims 43, 51 and 59. The detailed examiner reasons for allowance will be provided upon allowances of the case.

11. Dependent claims 45-50, 53-58 and 61-66 are allowable as being dependent upon Independent claims 43, 51 and 59 and having additional allowable features therein.

12. Claims 6, 8, 20, 22, 34 and 36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kambiz Zand whose telephone number is (703) 306-4169. The examiner can normally be reached on Monday-Thursday (8:00-5:00). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on (703) 305-1830. The fax phone numbers for the organization where this application or proceeding is assigned is (703) 872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Kambiz Zand

09/18/04